tions, tar, &c., as the caoutchouc covering modified the odour and prevented staining.

"In conclusion I must reiterate that the India-rubber treatment can be relied on to obviate the itching and tension; but for the relief of the eczematous inflammation, tar, &c., must be used."

35. *Uses of Carbolic Acid.*—Dr. GIBB, of the Monkland Iron Works, states that, following the recommendation of Dr. Jones Gee and others to sponge the patient with tepid water, and subsequently to grease the skin with mutton suet, in scarlatina, he has found the addition of carbolic acid, in the proportion of one to twenty of the suet, to afford very considerable relief. In otorrhœa he has found great advantage accrue from sponging the ear with tepid water, and carbolic acid one to forty, and subsequently dropping into the meatus a little of the following mixture: Glycerine one ounce and a half, carbolic acid one drachm, sedative liquor of opium (Battley's) twelve minims. The fetid discharge is thus arrested. In throat complications he has obtained marked benefit from the use of Dr. Neilson's "inhaler," to the sponge of which are added a few drops of carbolic acid and Condy's fluid in equal proportions, requiring the patient to inhale the impregnated steam several times daily. As to the treatment of burns and scalds by means of carbolic acid, Dr. Gibb cannot speak too highly. In the Monkland Company's Works upwards of 1600 workmen are employed, and burns are of frequent occurrence. He finds the addition of carbolic acid, in the proportion of one part to twenty of the ordinary carron oil, the best treatment, and adds one grain of acetate of lead to the ounce of lime-water before mixing it with the olive oil. The plan he adopts is to saturate most thoroughly several sheets of ordinary surgeon's lint with the above mixture, and entirely envelope the parts; over this he applies a thick layer of cotton-wool, which is removed every second day, to enable a further coating of the mixture to be applied to the lint, which he does not disturb, by means of a feather or fine brush. In one case the whole trunk was skinless; after the lapse of several days all the dressings were removed, and it was found that a new skin had formed. During all this time not a drop of pus could be detected, nor was any other unhealthy action present.—*Practitioner*, Feb. 1870, from *Lancet*, Dec. 11, 1869.

SPECIAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

36. *Traumatic Tetanus treated by Calabar Bean and Division of Posterior Tibial Nerve; Recovery.*—Mr. S. WOOD communicated the following very interesting case to the Shropshire Scientific Branch of the British Medical Association:—

J. E., aged 60, was admitted into Salop Infirmary, on May 6th, 1869, with compound fracture of the proximate phalanx of the left great toe, caused by a cut with an axe. It was a clean cut, nearly severing the toe. He had lost a considerable quantity of blood when admitted. The parts having been brought into apposition, the wound was dressed with water-dressing. He was ill-nourished, having gained a precarious living by begging, and, at times, had been in the habit of drinking freely. He went on well without a bad symptom until the 25th, three weeks after the injury, when he first complained of stiffness about his jaws, and difficulty in opening his mouth. His countenance was pinched and anxious. He was ordered a dose of turpentine and castor oil, and put upon milk, beef-tea, and wine. On May 27th, the symptoms were more marked; there was pain in the nape of the neck, and rigidity of the abdominal muscles. He could only open his mouth slightly, and swallowed with difficulty. He was then ordered a twelfth of a grain of extract of Calabar bean, every four hours, by the mouth.

On the 28th the symptoms were most urgent. The dose of the extract was increased to a quarter of a grain every four hours. He could only swallow liquids, and that with difficulty, and small quantities at a time.

On May 29th he had more difficulty in swallowing. The symptoms came on in paroxysms; there was opisthotonos. He was ordered brandy and beef-tea enemata three times a day, and a third of a grain of the extract dissolved in eighteen minims of water, to be injected under the skin every three hours. This was followed by considerable relief; and, after four injections, he was well under its influence.

May 30th.—He passed a tolerable night; but, the effect of the bean having passed off, the symptoms returned, as severe as ever. The wound was looking healthy. There were cramps in the legs. The posterior tibial nerve was divided behind the inner malleolus, and the subcutaneous injections were ordered to be continued.

On the 1st, 2d, 3d, and 4th of June the symptoms continued as aggravated as ever, except whilst he was under the influence of the bean. While under its influence, the paroxysms almost disappeared, and in about an hour after its administration he was able to take copious draughts of milk, beef-tea, and wine, although immediately before, he was unable to swallow at all without bringing on an attack.

June 5th.—He was much better; no paroxysms. He complained chiefly of pain and some cramp in the legs. One-third of a grain was injected night and morning.

June 6th.—The pupils were greatly dilated. He was delirious; he passed his motion under him. The wound was looking healthy. One-third of a grain was injected at 10 A. M. Half an hour after the injection the pupils were contracted almost to a point. As the hypodermic injections had given rise to several abscesses, and had caused great irritation, they were omitted; and one and a half grains were administered as a suppository at 5 P. M. and 10 P. M. He was also injected with half a grain of acetate of morphia at 9 P. M. and 11 P. M.

June 7th.—The rigidity and delirium were less; the pupils natural. The suppository was repeated at 10 A. M. and 6 P. M. He passed a quiet day.

June 8th.—He passed a good night. Another suppository was administered at 11.30 A. M.

June 9th.—He was quiet and comfortable. There was slight rigidity. The patient still passed motions under him; he, however, was not unconscious of the act, but was afraid to use the bed-pan lest it should bring on an attack. The suppository was repeated night and morning.

June 10th, 11th, and 12th.—He was going on well.

June 13th.—He had diarrhœa, which was checked with compound kino powder.

June 15th.—The morning suppository was omitted. From this time the tetanic symptoms gradually disappeared, but his recovery was retarded by the appearance of whitlow symmetrically on both hands, running up into the forearms. He was discharged convalescent on the 27th of July, 1869.—*Brit. Med. Journ.*, Jan. 15th, 1870.

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37. *Whiskey as an Antiseptic Dressing in Surgery.*—Dr. DAVID BLAIR gives an account (*Glasgow Med. Journ.*, Feb. 1870) of his experience in this matter. He states that as a dressing to wounds he has found whiskey not only efficacious, but easily applied. He usually applies the whiskey as follows:—

"To remove foreign substances or clotted blood, the wound is first washed thoroughly with strong whiskey; it is then closed with stitches if necessary; again bathed with whiskey, and covered by a rag and bandage both saturated with the same fluid; and finally, all is enveloped in gutta percha tissue or oiled silk, and directions given to the attendants to wet the bandage from time to time with the spirits. As a rule, the first dressing is not disturbed for three or four days, and afterwards it is changed every day, or every second day, according to circumstances. The principal thing to be attended to is to have the bandage kept wet with the whiskey—but not *too wet*, or it will impede the progress of the cure. I have never seen *much* sloughing, and I have not once seen erysipelas occur in wounds treated in this way. Probably because septic germs, if they exist at all, are not numerous in our hyperborean regions."

He has also used whiskey as an application to bed-sores. He says he has seen more than one case in which the os sacrum and coccyx were exposed from sloughing in typhus, and yet the patients recovered. The bed-sores were treated with linseed and oatmeal poultices, mixed with whiskey, until the slough separated, then whiskey lotions were applied.

"In cases of chronic and scrofulous abscess, I have used whiskey as an injection, and find that it checks the discharge and hastens the cure. In a case of scrofulous abscess of the hip-joint I attribute the recovery of my patient to its having been used in this way. The pain and hectic before and for some time after the abscess was opened, caused so much prostration that I had slight hopes of my patient's recovery. I persisted, however, in using the injections two or three times daily, bathed the whole limb often with spirits, and kept it wrapped in cotton wadding and a bandage. The stomach for a time would not tolerate solid food of any kind, and even beef-tea provoked nausea. Notwithstanding, in an incredibly short time, my patient rallied, and I had the pleasure of seeing him able to walk well, although the joint continued somewhat stiff.

"In a singular case of abscess, situated beneath the muscles in front of the abdomen, which opened at the umbilicus, I was highly pleased with the result gained by these injections. The discharge obstinately continued, although I perseveringly applied for a considerable time poultices and lotions of different kinds; at last I resolved to inject with strong spirits, but from the peculiar situation of the abscess, and fearing inflammation might supervene, I used it very cautiously at first, but no unfavourable symptom having followed the first application, by degrees it was used more freely—two or three syringefuls at a time repeated twice or thrice daily. In a few days there was a marked improvement, and soon the discharge ceased completely, and the patient is now well.

"Alcoholic lotions, as our readers are aware, are now used in some of the Parisian hospitals, and it is said with very satisfactory results. If alcohol should prove to be as good an antiseptic dressing as carbolic acid, the former, being more readily procurable, and its odour less disagreeable, will to a great extent supersede the latter."

38. *Torsion of Arteries.*—Mr. COOPER FORSTER, in a paper read before the Clinical Society Dec. 10, 1869, said that having been selected by the Council of the Society as one of a committee to report upon the relative advantages of this procedure and acupressure, and no report having been made in consequence of the death of one of the committee, he felt it right to offer the Society his individual opinion upon the question. Having made some remarks upon the advantages of acupressure, and stated that, though still practised in Aberdeen by Keith and Pirrie, it was but little used in London, the speaker remarked that he had lost two cases from bleeding when the pins were removed, and that these accidents occurred after considerable personal experience in the practice. He considered acupressure valuable, but claimed for torsion precedence over all other modes of arresting hemorrhage, because it possessed the great advantage of not leaving any extraneous body in the wound. In proof of its efficacy he read several cases of amputation, as having occurred under his own care, in which torsion alone was employed for arresting hemorrhages. In addition to these amputations, Mr. Forster mentioned that he had excised the elbow-joint once, the knee three times, and the hip four times, during the last few months, besides performing other operations (about forty in number), in all of which torsion of arteries was exclusively employed. He therefore considered that a fair trial had been given to the plan, and that hence he might speak with some confidence as to the results. He confessed to reading with surprise, in Mr. Nunneley's able address to the British Medical Association, remarks to the effect that "he (Mr. Nunneley) could not twist a large artery and rest comfortably in bed, lest the elastic artery should untwist itself, and the patient bleed until he slept to wake no more." Mr. Forster was convinced that, had Mr. Nunneley perused carefully an account of the manner in which vessels were

closed by torsion, the notion of an artery untwisting itself would seem to be an impossibility. Drawings were shown by the speaker representing the two femoral arteries of a double amputation hardened in spirit, and divided sectionally by Mr. Howse; and the fact was particularly emphasized that the twisted part showed no signs of death, though the patient from whom the preparation was taken did not die until thirty-six hours subsequent to the operation. Mr. Forster assured the Society that in no single case recorded, or at any time under his care, had secondary hemorrhage occurred; and the conclusion at which he had arrived was, that the greater security of torsion arose from the reduplication of the middle and internal coats, thus affording a mechanical impediment to hemorrhage, which impediment increased day by day. But in acupressure, as he had shown in the 14th volume of *Guy's Hospital Reports*, the clot which formed above the pin was the only safeguard against hemorrhage. As the removal of the pin a day or two subsequent to the operation was necessary, it must always be a matter of some uncertainty as to whether the clot was sufficiently adherent to afford the necessary security against bleeding. In the practice of torsion a vessel is made secure at the time of twisting—that is, bleeding is arrested with certainty, and there is no chance of its recurrence. But in cases where acupressure or the ligature is employed, there must always be some anxiety on the part of the surgeon as to the removal of the pin in the one case, or the separation of the ligature in the other. Mr. Forster further stated that since February 1867, he had never used a ligature to restrain bleeding from an artery.

A very excellent preparation of the arteries above referred to was handed round for examination, as also the forceps used by Mr. Forster.

In reply to a question from the President, Mr. Forster said that it was his practice to seize from one-eighth to a quarter of an inch of the artery, and in the case of large vessels to twist it four or five times. Small arteries were usually more difficult to deal with than large, because the surrounding tissues were sometimes included in the grasp of the forceps.

A query from Mr. Croft educed the opinion that it was of little consequence whether the vessels were cut obliquely or at right angles.

Mr. Bryant corroborated the experience of Mr. Forster in every particular; he had not used the ligature for two years. Mr. Poland had applied torsion to six femoral, two brachial, and a great many smaller arteries, with entire success. The speaker disagreed with Humphrey as to the mode of twisting, and believes that the external coat should not be twisted off, because it is required for the support of the middle and internal coats. The necessary number of twists must be judged of by the looseness of the external coat, and a jet of blood should be allowed to enter the artery at once to prove the success of the procedure.

Mr. Forster said that he wished to compare torsion with acupressure rather than with the ligature. There was little doubt, however, that all these plans were admirable, as immediate agents, but that we should look to the future. He averred that secondary hemorrhage sometimes ensued both after the application of the ligature and acupressure, but that in torsion it could not occur; that in the very last case on which he operated the only parts of the stump that did not slough were those around the artery, which latter was atheromatous and could not have been secured by ligature. He thought Mr. Croft's objection entirely untenable, and recommended Mr. Gascoyen to live and learn.

Mr. Callender closed a very interesting discussion by remarking that, out of more than sixty capital operations performed at St. Bartholomew's Hospital during the current year, no case of secondary hemorrhage had occurred after the application of ligatures.—*Lancet*, Dec. 25, 1869.

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39. *Arrest of Hemorrhage by Torsion of Arteries.*—An extremely interesting and instructive paper on this subject was read before the Surgical Society of Ireland January 7, 1870, by Mr. Robert McDonnell. Dr. McD. stated that torsion has for a considerable time past been practised in Steevens' Hospital, and vessels such as supply large tumours were twisted with perfectly satisfactory results,

yet it was, of course, a gradual process by which Dr. Colles, Dr. Ed. Hamilton, and himself gained sufficient confidence in it to have recourse to it in cases of amputation; it has, however, now been used in not a few cases of amputation at the wrist, ankle, leg, immediately below the knee, and finally at the middle of the thigh. In these cases, the wounds have been closed without a single ligature being used; and in no case has secondary hemorrhage resulted.

The rapid recovery of the case of amputation of the thigh was very encouraging, and shows what we may reasonably hope to attain as regards the healing of wounds by the combined action of torsion and antiseptic dressing. As the details of the process of torsion, Dr. McD. says, differ considerably, according to the size of the vessel and the nature of the parts surrounding it, he gives the following description of the proceeding which he thinks best in each of several cases:—

1st. In order to secure a large-sized vessel, such as the femoral artery, by torsion, two pairs of forceps are required—such as these which I hold in my hand; these forceps correspond with the instruments used by Amussat for his "limited torsion;" but they may be effectively used in a manner different from that described by him. One of these pairs of forceps must be clasp-forceps, with blades broad enough to catch the entire mouth of the artery to be twisted. With these the mouth of the vessel is fairly caught (and the best proof that it is fairly caught is that no blood issues from either corner when pressure on the artery is relaxed); the clasp is then pushed home; the forceps are then gently pulled in the direction of the long axis of the vessel, which is thus drawn out a little way; unless, indeed, the structures around are unyielding from infiltration, when it may be necessary to free the vessel with the finger-nail from its most immediate connections. Having thus succeeded in fairly grasping the vessel across the mouth and drawing it out, the second pair of forceps come into play; this second pair consist of long narrow blades, by which the vessel is seized transversely and squeezed so tightly that the internal and middle coats are nipped across. In order more readily to effect this nipping across of the internal and middle coats, the blades of this second pair of forceps are made so that there is a depression on the inside of one of them, and a corresponding projecting ridge on the other. Having been forcibly squeezed home, so as to effect the division of the internal and middle coats, this instrument is withdrawn and set aside. Torsion is then performed by twisting round and round some five or six times the forceps which grasp the mouth of the vessel; the artery is twisted at that portion weakened by the nipping across of its internal and middle coats, and this has no tendency to untwist. The forceps by which the vessel is seized transversely do to the artery exactly what a well-applied ligature does—viz., they divide the internal and middle coats evenly, smoothly, and completely; and, in order to act well, the blades must be neither too blunt nor yet too sharp, and in squeezing them home the surgeon should feel the coats give way, as in the drawing home of a ligature. It is not either desirable or necessary to twist off the end of the vessel.

2d. In order to secure by torsion such arteries as the radial, ulnar, anterior tibial, &c., the forceps known as Mr. Syme's torsion forceps generally answer admirably, without the aid of any others. These forceps have two teeth, or prongs, on one side, and three on the other, and are wide enough to clasp the entire of the mouth of the artery; many of these forceps are made with the prongs too long, so that when the twisting begins they entangle the surrounding textures, and drag them into the vortex. The ordinary artery forceps, provided with one tooth on one side and two on the other, is an utterly useless instrument; it is not as good as a simple tenaculum for drawing out a vessel, and is worse than useless for torsion, as it only succeeds in biting a piece out of the mouth of the vessel, and, of course, leaves it bleeding more furiously than ever. If a vessel, such as the radial, is not effectually secured by a few twists of Syme's torsion forceps, it should be grasped again fairly, and the forefinger and the thumb of the left hand passed down over the end of the forceps so as to catch the end of the vessel under the thumb-nail, and at once give it a pinch and fix it while the forceps are twisted; thus the fingers effect what Amussat accomplished by forceps in his "limited" torsion.

3d. In order to secure small arterial twigs surrounded by lax areolar tissue —as every one knows very moderate-sized arterial twigs sometimes give rise to hemorrhage, most embarrassing to the surgeon—the precise means of controlling by torsion the bleeding from such vessels depends very much on the tissue by which the artery is surrounded; such arteries as the spermatic, or those divided in amputation of the fingers and toes, may in general be managed by Syme's torsion forceps with as much facility as those of larger size; but where the arterioles are surrounded by a great abundance of lax areolar tissue the case is otherwise. If a small vessel in the scrotum, upper eyelid, or prepuce, is caught in Syme's torsion forceps, as soon as the twisting begins a great quantity of the loose tissue around is drawn into it as into a whirlpool; it is like the screw on the wash-rod of a gun when screwed into a mass of tow. The twisting cannot be properly effected by such forceps; and even when they are disentangled, the elastic tissue untwists, and the vessel bleeds away. The same happens in the case of small arteries in the loose areolar tissue surrounding tumours such as are readily turned out of their bed by the finger or the handle of the knife. In this case it is best to catch up the orifice of the vessel neatly with the tenaculum, or small hook; draw it out from its cellular bed, then seize it in a pair of forceps like those used for catching the conjunctiva in order to fix the eyeball. The teeth of such forceps are not so sharp or pronglike as those of Syme's, and in twisting do not screw into the surrounding tissue, and, unlike the common clasp-forceps, they are able to catch the little vessel immediately above the spot where the point of the tenaculum penetrates.

I removed, not long since, in Steevens' Hospital, a large fibrous tumour from below the crest of the ilium. It was superficial to the fascia over the gluteal muscles, and was very readily turned out by the finger from the cellular bed in which it lay; a large number of small arteries bled wickedly; some of these might be seen for an inch or more of their length, and there was no difficulty whatever in seizing them; yet when twisted with Syme's forceps many of them untwisted again, and bled as before. In such a case the twisting is, I presume, as I may say, spread over a long piece of the vessels; its inner and middle coats are not broken at any point, and the elasticity consequent on this causes the little vessel to unscrew itself just as an India-rubber tube would. It becomes, therefore, in this case again necessary to fix the upper part of the vessel with the forefinger and thumb, and having pinched the little vessel with the nail to effect the "limited" torsion of Amussat.

4th. To secure by torsion arteries imbedded in muscular tissue.—When a muscle is cut transversely, or nearly so, as in an amputation, the arteries emanating from it are usually easily caught and secured by twisting with Syme's forceps; often the mouth of the vessel projects in a little nipple-like prominence, and the direction of the long axis of the vessel is obvious, so that no mistake is likely to be made as to the lie of the artery. Where a tumour, however, is removed, and with it some portion of an underlying muscle, it is often by no means easy to detect or surmise the exact course of an artery seen bleeding from the surface of the muscle.

A tumour of the breast, suppose, is removed, and with it some fibres of the great pectoral; a bleeding point is seized in Syme's forceps and twisted. It is not possible to be certain how exactly this vessel runs within the muscular structure, which is friable, and, in fact, torn by a few twists, so that a little pit is left bleeding from the bottom. These are very troublesome vessels to secure; and here, again, I believe the best plan to be, to draw them out with tenaculum and twist with forceps, more toothed and less pronged than Syme's.

Vessels very close to the integument are sometimes troublesome to twist, as it is not possible to catch them without taking hold of the skin at the same time; such vessels at times give rise to troublesome hemorrhage; it is well, however, to secure them by passing a suture close to them.

Of the pathological conditions which modify the applicability of torsion.— There are tumours, the vessels of which partake so much of their soft structure, that when ligatures are applied to them these cut their way through and come away as if the silk had been drawn home through a piece of dough or putty. Such vessels cannot be twisted; but neither can they be secured by a ligature. Suppose that a tumour of this nature is lodged in the parotid region: the surgeon hopes to be able to dislodge it entirely, but finds that it is wedged in more deeply than he anticipated; he is obliged to cut off a part and leave a part behind; the vessels of the portion remaining bleed profusely, and being imbedded in the soft tissue of the tumour, having delicate walls, and in fact little or no cellular coat, they cannot be secured by torsion, and ligatures cut their way through. Strong ligatures passed through the base, or tied around it very firmly, alone can prevent hemorrhage. Even the slow use of the écraseur does not prevent bleeding in such cases.

It is a question to be determined by further experience, how far age and any tendency to an atheromatous state of the arteries may forbid the use of the torsion. It may turn out that torsion is even more secure than ligature in atheromatous arteries. When secondary hemorrhage has followed the application of the ligature in such cases, the artery is found trumpet-mouthed; the internal coat, having become altered and tough by disease, is not cut through by the ligature, and the outer coat, which is free from disease, is, in fact, not called into fair play to take its important share in the process. Torsion would probably call more completely into action that coat of the vessel which is in this peculiar condition most free from disease.

There is no doubt that arteries imbedded in structures more or less infiltrated or diseased, are apt to twist off readily, and still continue bleeding; and it is then sometimes difficult to get the vessel so as to apply a ligature. In situations where it is not an easy matter to follow the vessel up a little way, if necessary, it may be undesirable on this account to twist at all. For instance, in amputation of the leg, if a piece should be twisted off the inter-osseous, and it continues to bleed, it may be by no means easy to take it up, and secure it by a ligature. Such vessels are not among the most favourable for torsion; yet, admitting that it is not applicable in all cases, I cannot help believing that it is in the majority of instances the best means at present known of arresting hemorrhage with a view to speedy recovery; and I trust that the experience which we have had of it in Steevens' Hospital may recommend it to the members of this Society and the profession throughout Ireland.—*Medical Press and Circular*, January 26, 1870.

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40. *Galvano-caustic Method of Removing Tumours in the Larynx.*—Dr. REICHEL, of Breslau, communicates the results of his experience in reference to this mode of treatment, which he states has proved of the greatest service in his hands. It is available for all sorts of tumours, even when they are multiple or have a very broad base, and there is no danger of subsequent loss of voice. A good battery and a skilful operator are, however, indispensable. The instruments required are few, simple, and delicate, the chief being a cutting-loop of wire and an extremely fine galvano-cautery, thus contrasting favourably with the knife, scissors, and crushing instruments demanded for other methods. The pain suffered by the patient is very small, scarcely amounting to more than a sensation of heat. The action may be rendered very limited indeed. The time required for the operation is also very small. The instrument is introduced whilst cold, and as soon as the cautery is in contact with the surface, or the tumour is inclosed in the wire-loop, these can be brought to a white heat, and as instantaneously cooled. There is no hemorrhage, and no disagreeable after-effects have been observed. Unless the growths are of a malignant nature no recurrence takes place. On the whole, he coincides with Türck that for the treatment of tumours of the larynx the galvano-caustic method is indispensable, and constitutes one of the greatest triumphs of modern surgery.—*Practitioner*, March, 1870, from *Berliner Klinische Wöchenschrift*, No. 51, 1869.

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41. *Compound Fracture of Patella; with an Analysis of fifty-six Cases of that Injury.*—This is the title of a paper read before the Royal Med. and Chirurg. Society Jan 11th, 1870.

The author, in presenting the case to the notice of the Society, drew attention to the following facts: 1. The peculiar and unusual nature of the accident; 2. The attempt to save the limb under circumstances most disadvantageous, owing to physical and moral defects; 3. The unfortunate relapse and threatening symptoms of pyæmia, after the primary danger of an inflamed and suppurating joint had passed over; 4. The chest-complication and exhaustion of the patient after subsidence of the pyæmic symptoms; 5. The saving of life by amputation of the limb. G. M., aged 28, a boiler-maker, was admitted into Guy's Hospital on January 19th, 1869. About eight weeks previously, a transverse lacerated wound over the right knee was produced by a fall; for this he was treated as an out-patient at the hospital. The wound was about three and a half inches in extent, and the patella was exposed; but the joint was not injured. Strapping, and a back splint between the knees were applied. Cicatrization was almost completed; and he removed the splint and went about his employment. Early on the morning of his admission, he caught his foot in a grating, and was thrown down on his side, in his fall using great muscular exertion to save himself. The newly cicatrized wound was torn open, and he suffered great pain. He was immediately brought to the hospital. There was a large gaping wound in the site of the original injury; also a transverse fracture of the patella. There was hemorrhage, and escape of synovial fluid from the joint. The dresser on duty introduced his finger into the joint. The wound was closed by sutures, a compress of lint with strapping applied, and a back splint adjusted behind the knee. When he came under Mr. Poland's notice, he was suffering from a chronic cough and general debility, which gave rise to the suspicion of phthisis, although no evidence could be elicited by the stethoscope. In three or four days, inflammation and swelling of the joint ensued. The dressings and sutures were removed, and carbolic acid lotion was applied to the wound, which had a sanious discharge. On the tenth day, suppuration had fully set in, and the discharge was profuse. This suddenly lessened, and symptoms of pyæmia became manifest; but suppurative action in and about the joint reappeared, necessitating the use of free incisions. During a lingering and tedious suppuration, with ulcerative action for a period of six weeks, the man's health began to give way. Amputation was performed on the 5th of March. The patient made a most rapid recovery, and gained flesh, although he did not lose his cough entirely. The author made some comments on the peculiar nature of the injury, and referred to other cases of compound fracture of the patella. The patient's extremely exhausted condition and general state of health negatived the performance of excision; and, the more so, as the integuments and soft parts above and below the joint were much implicated in the suppurative action. The author also adverted to the statistics of fifty-six cases of compound fracture of the patella without any complication of the neighbouring bones of the joint. Mr. Poland concluded by inquiring whether there could be a compound fracture on the patella without a wound or lesion of the knee-joint? He had made some experiments which led him to believe that there could.—*Brit. Med. Journ.*, Jan. 22, 1870.

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42. *Amputation at the Knee-joint.*—Mr. Geo. D. Pollock, in a paper read before the Royal Med. and Chirurg. Soc. December 14, 1869, commenced by drawing attention to the circumstance that amputation at the knee-joint had not been very favourably entertained until within the last thirty years, and that only very lately had it been much advocated. Having himself performed the operation in several cases with satisfactory results, he desired to bring his experience before the Society.

After referring to the practice of Mr. Syme and of Mr. Samuel Lane, the author proceeded to say that, in the consideration of amputation through the joint, two conditions must be borne in mind—first, if there be disease of the joint and ulceration of the cartilages after the leg is taken off, the articular surfaces of the condyles and patella should be removed; secondly, if no disease of the joint exist, but amputation be requisite on some other account, then the articular cartilage should be left intact.

The author related the particulars and results of eight cases in his own practice, and quoted communications received from other English surgeons. From various sources he had been able to collect 48 cases operated upon in England.

These showed a gross result of 36 recoveries, and 12 deaths. A collection of American cases showed 32 recoveries and 13 deaths—thus giving a total mortality of 26.88 per cent.

After some further account of American experience in the matter, the author proceeded to describe the improvement suggested by Mr. Carden, of Worcester, of making the flap of skin taken from the front of the leg. He himself approved of the suggestion. The anterior flap should be long enough and broad enough to cover the whole of the exposed end of the femur. It should be so broad at its base as to be at least two-thirds of the circumference of the joint, the posterior flap at its base forming the other third. The author lays stress upon the anterior flap being of sufficient length (at least five inches below the lowest point of the patella), and is inclined to leave the patella in the flap when the joint is healthy. When it is diseased, he recommends the removal of the articular surface alone. The comparison between the stump usually obtained after amputation through the thigh. and that obtained after amputation through the knee-joint, is very much in favour of the latter, which is never conical or retracted, and is superior in strength and fitness for locomotion. in comfort and freedom from pain, and in capability to bear weight and endure exertion. It is also more easy to adapt a good serviceable artificial leg to such a stump. In conclusion. the author thought the facts he had brought forward, although not enough to lead to positive conclusions, were enough to commend the operation to the favourable consideration of the Society.—*Lancet*, Dec. 25th, 1869.

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43. *Thyroid Dislocation of the Hip-Joint.*—As the opportunities for the dissection of cases of recent dislocation of the hip-joint are not frequent, Mr. THOMAS ANNANDALE, Surgeon to the Edinburgh Royal Infirmary, has thought it interesting to place upon record the following case, the more particularly, he says, as it proves in his opinion "the correctness of the views lately published by Professor Bigelow (*The Mechanism of Dislocation and Fracture of the Hip*). This case is the fifth recent dislocation of the hip-joint which I have reduced by manipulation. Two of these were thyroid dislocations; one was a dislocation on to the dorsum of the ilium; one into the sciatic notch, and one on to the pubes. The experience of these cases, and a study of the one related, have convinced me of the importance of the Y ligament as an agent in preventing, under certain conditions, and assisting under others, the reduction of dislocations of the hip-joint. I therefore cordially add this testimony to the value of Professor Bigelow's observations."

CASE.—"The patient was a strong healthy man, 19 years of age, who was admitted into my wards in the Royal Infirmary, on account of a serious railway injury, in December, 1869. His injuries consisted of a comminuted fracture of the right humerus, a compound fracture of the right leg, a compound comminuted fracture of the left forearm and hand, and a dislocation of the head of the left femur into the thyroid foramen. The symptoms of the dislocation were well marked, and consisted of slight flexion of the thigh and abduction of the whole limb, which was fixed in this position. The patient was too weak to admit of the removal of the injured limbs; so we contented ourselves with administering stimulants, and applying heat to the surface of the body. Under this treatment, his pulse rose a little; and, having given him one or two inhalations of chloroform, I reduced the dislocation of the hip by manipulation with great ease.

"The patient gradually sank, and died about two hours after admission. An examination of the injured joint about fourteen hours after death showed the following condition. There were slight extravasations of blood among the muscles on the anterior, outer, and posterior aspects of the joint; and extravasation of blood and severe bruising and laceration of the muscles on the inner aspect of the joint, more particularly of the fibres of the obturator internus, portions of which had been forced into the acetabulum. The tendon of this muscle was not ruptured. The head of the femur lay in the acetabulum, and the capsular ligament was extensively torn on its inner and lower aspects. The round ligament was completely torn away from the head of the femur, and attached to it was a thin layer of articular cartilage and some small particles of bone. The anterior, and a greater part of the posterior portion of the capsular ligament were entire; and a careful dissection of them showed, most distinctly, Professor Bigelow's Y ligament uninjured."—*Brit. Med. Journ.*, Jan. 29, 1870.

44. *Strangulated Inguinal Hernia; Gangrene; Sloughing of a portion of Small Intestine; Restoration of Continuity of Intestinal Canal.*—Mr. Paget in a recent clinical lecture referred to the case of a woman, who, at an advanced period of pregnancy, had become the subject of an acute strangulated inguinal hernia of large size. The gut rapidly became gangrenous, and was therefore not returned at the operation; and about fourteen days afterwards, a piece of small intestine, eight inches long, came away by the wound. She began to pass fæcal matter *per rectum* about three weeks after the operation, and, at the present time, very little fecal material passes from the wound, showing that the continuity of the intestinal canal has been completely restored. She aborted soon after the operation. Mr. Paget considered that this case well illustrated the importance of disturbing the intestine as little as possible at the seat of constriction in cases where the strangulated portion is gangrenous; and gave as the rule for practice, that the constriction should be just sufficiently divided to enable the finger to pass into the intestinal canal above the seat of stricture, in both directions from an opening made in the strangulated portion, so as to make sure that feces will pass freely from the wound.—*Brit. Med. Journ.*, January 29, 1870.

45. *Some points relating to the Treatment of Strangulated Hernia.*—M. Tillaux approves of Prof. Gosselin's decided practice in relation to strangulated hernia, viz., after performing the taxis first without and then with chloroform, without success, to immediately resort to the operation. He especially opposes Malgaigne's theory, which, by attributing so much importance to inflammation, leads to a dangerous temporization in endeavouring to treat this. Still, M. Tillaux cannot consent to entirely overlook the old theory of obstruction or the modern one of inflammation, having so often observed, at the Bicêtre, large and old hernias partly or wholly irreducible, which had become the subjects of this obstruction, inflammation, or slight strangulation, whichever it may be, insensibly yielding to the effects of rest and cataplasms. Still, for recent hernias of moderate size and usually reducible, which have become strangulated, M. Gosselin's rule is the proper one.

The taxis, when it succeeds, acts as if by enchantment in the relief of symptoms; but numerous questions arise in its application, such as whether it should be moderate or forcible, how long it should be continued, and at what stage of the strangulation it ceases to be practicable. Thus, while M. Gosselin employs all the force that can be excited by two, four, or even six hands, most surgeons think a more moderate procedure preferable; and few would carry their enthusiasm for it so far as M. Thiry, of Brussels, who perseveres with it for twelve or fifteen successive hours. M. Tillaux is of opinion that when it has been properly applied for a quarter of an hour upon a patient in a state of anæsthesia, and does not succeed, the operation should be resorted to. The surgeon is not in possession of any positive sign that the taxis will prove harmless, and M. Tillaux cites a recent case in proof of this. In a patient who presented an inguinal hernia of twenty-four hours' duration, with the skin tense over it, and sound in appearance, and unaccompanied by any sign of local reaction, he performed a moderate taxis for a few minutes, the hernia being reduced. Two hours after, the patient died in intense pain, and the autopsy revealed intestinal perforation. How little the mere duration of the strangulation can provide a rule may be seen from another case, in which a femoral hernia had been strangulated for eight days, and yet the intestine was found perfectly healthy.

After adverting to the ordinary rules for the operation, according to the condition in which the intestine is found, M. Tillaux adverts to the rarer case in which the lesion of the intestine is limited to its serous membrane. In a femoral hernia, in which strangulation had continued sixteen hours, he found the peritoneum detached from the intestine to about the extent of four square centimetres, just as the epidermis is in a burn. As the muscular coat appeared healthy, he returned the intestine, and the patient recovered after some slight symptoms of localized peritonitis.

Besides the ordinary mode of strangulation by the rings and the orifices of the cribriform fascia, M. Chassaignac has pointed out one due to the inflexion of a noose of the intestine over a sharp edge, as, for example, Gimbernat's ligament. In this case the taxis only increases the inflexion of the hernia, instead of reducing it, all pressure acting, in fact, directly on the hernia. In a case here selected, in which the taxis had been freely employed prior to admission, the noose of intestine, lying with its convexity inwards, was strangulated by the external edge of Gimbernat's ligament. It was healthy, and having been straightened in order to be returned, it spontaneously reentered the abdomen without any pressure whatever having been exerted upon it. The patient died of peritonitis.

M. Tillaux protests against the adoption of the practice recently advocated by M. Girard of performing the operation, and leaving the hernia unreduced, under the idea that the reduction of the inflamed intestine is the cause of the peritonitis that so often ensues. M. Girard bases his recommendation chiefly on two cases, in which, owing to gangrene in adhesions, reduction had not taken place, and yet the patient recovered. This, M. Tillaux observes, is the old story of their recovery, in spite of, and not in consequence of, non-reduction; and he cannot treat the proposal as serious until cases have been treated by intentional non-reduction. He observes the return of the intestine is not the source of danger in herniotomy, but the peritoneal wound; and he believes that ovariotomy may teach us one reason why operations for hernia are so fatal. In it the surgeon, above all things, is assiduous in preventing the sojourn of a drop of blood or other fluid in the cavity of the peritoneum, for it is from the subsequent decomposition of this that peritonitis is to be feared. In hernia it is obvious that the blood from the bleeding surfaces easily may gain access to the cavity. This is a mere hypothesis, but it is desirable that the attention of surgeons should be turned in this direction.—*Brit. and For. Med. Chir. Rev.*, Jan. 1870, from *Bull. de Thérap*, June 30, 1869.

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46. *Subcutaneous Evacuation of the Matter of Buboes.*—In the *Wiener Med. Presse* for 1869, Dr. GRUNFELD suggests the removal of the purulent contents of buboes subcutaneously, by means of an explorative trocar with an accurately fitting syringe adapted to take up upon the withdrawal of the piston about 1 to 2 drachms of fluid. Dr. TOMOWITZ has practised this operation. He describes it as one quickly performed and without pain, and leaving no permanent cicatrix. (In twenty-seven of Dr. T.'s cases the cure, in twelve, took place within 10 to 20 days, in eight, within from 1 to 10 days, etc.) The operation excites no disposition to the occurrence of hospital gangrene. When the contents of the bubo are of too thick a consistence to pass readily through the canula attached to the syringe, we must wait until, by proper applications, suppuration is promoted and the walls of the abscess become thinner. The puncture of the bubo should be repeated every two or three days until pus ceases to be secreted into the cavity of the abscess. It is not advisable, however, to remove entirely all the contents of the latter. Its permanent obliteration does not require it. An unfavourable result need be feared only in cases where there is an evident tendency to a thinning of the skin over the tumour, and an apparent spread of the disease, as shown by the morbid enlargement of the lymphatic glands about the base of the tumour.—*Centralblatt f. d. Med. Wissenschaften*, Dec. 25, 1869, from *Wiener Med. Presse*, 1869, S. 944. D. F. C.

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47. *A Plate with Artificial Teeth Swallowed, Detected in the Stomach, and removed.*—Mr. L. S. LITTLE read before the Royal Med. and Chirurg. Society a report of a case of this. A woman was admitted into the London Hospital, who, two days previously, during an epileptic fit, had swallowed a gold plate, to which some artificial teeth were attached. This produced so much irritation that no food had since been retained; and as the foreign body could readily be

felt in the stomach by means of an ivory-tipped probang, Mr. Little passed an ordinary œsophageal coin-catcher, and, after several attempts, succeeded in hooking the plate, and drawing it up as far as the pharynx, where it lodged. Considerable difficulty was experienced in removing it from this situation, although this was ultimately effected, and the patient recovered without a bad symptom. The plate, which had sharp projecting extremities, measured one inch and three-quarters in length, by one inch and a quarter in width, and fixed to it were three incisor teeth, one canine, and one bicuspid. The author advocated attempts at extraction in similar cases, urging that if a foreign body has passed down the œsophagus, and through the cardiac orifices of the stomach, no great difficulty will be met with in its withdrawal through the same passage, provided no force be used; and he referred to some experiments by Mr. Pollock, to show that the removal from the stomach of even a small plate by the natural efforts is very improbable.—*Lancet*, Feb. 19th, 1870.

OPHTHALMOLOGY.

48. *Periodical Changes in the Diameter of the Pupil, without Modification of Refraction or Accommodation.*—The following interesting case of this is related by Professor DONDERS. J. K., a lad aged 18, had suffered for some weeks from an exanthem on the right half of the face, and a kind of boil beneath the nose. While being treated for this affection, the patient's vision became obscure, and mydriasis appeared, first in the left and then in the right eye; and in a few days an extraordinary inconstancy in the diameter of the pupils was observed. At first, the process ran its course regularly every twenty-four hours; at half-past seven in the morning the pupil was dilated nearly to its maximum, in a moderate light, and towards noon was reduced nearly to the size of a pin's head; so that extreme degrees both of myosis and of mydriasis were successively developed during the day. This was the account given to Dr. Donders by the patient and by his brother who accompanied him. They added that for some days the changes had been less regular, and were much less marked. Dr. Donders ascertained that, within sixteen hours, the broad diameter of the pupil became frequently twice as great as the narrow. There was absolutely no disturbance of vision to be observed; the patient was obliged to look into a mirror in order to learn the state of his pupils. The ophthalmoscope showed only strong capillary injection of the optic disk, which, indeed, is not rare as a normal state in the young. The pupils had, both in the contracted and in the dilated state, a relatively similar mobility, acting directly and together under the influence of direct light, and in accommodation to near objects. The left pupil was generally somewhat larger than the right, sometimes *vice versâ;* in both cases the difference was greater in moderate than in strong direct light, and greater also in accommodation to distant than to near objects. While the sphincter of the pupil thus seemed to act in all respects normally, no disturbance of function could be detected in the course of the third nerve; nor could there be said to be any disturbed innervation of the parts supplied by the fifth nerve. By exclusion, then, the source of the condition described had to be sought in the sympathetic; it might be assumed that in dilatation the sympathetic branch which acts on the radiating fibres of the iris was stimulated; while in contraction its action was diminished. The question now arose, whether the difference in the action of the radiating fibres had an influence either on refraction or on accommodation. A careful examination showed that, whatever the diameter of the pupil was, both refraction and accommodation remained unaltered. The patient could read for a considerable time without fatigue, with glasses of — $\frac{1}{3}$. The colour and temperature of the face and ears —which were noticed with reference to the vaso-motor function of the sympathetic—underwent little change; almost none whatever in connection with the